

Celebrate World Amateur Radio Day—April 18

The

Communicator

A Publication Of The Surrey Amateur Radio Club

April 2018



SARC

April 2018

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The **Communicator** is a publication of the Surrey Amateur Radio Club. It appears monthly, except July and August, for area Amateur Radio operators, to enhance the exchange of information and to promote local ham radio activity.

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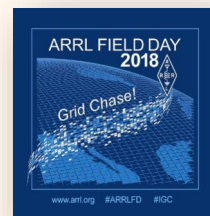
Regular readers who are not SARC members are invited to contribute a \$5 annual [donation](#) towards our Field Day fund.

SARC maintains a website at www.ve7sar.net and a Digital Communicator at ve7sar.blogspot.ca that includes recent news, past issues of The Communicator, club history, photos, videos and other information.

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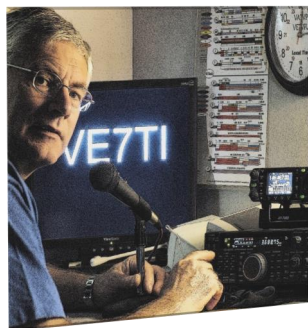
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**On The April Cover...**

This issue of The Communicator includes a lot of topics. On the cover we have Ralph VA7UB and Nell VA7PE working the CQ WPX SSB contest at the Surrey Amateur Radio Operations and Training Centre. They're at the controls of our sparkling new iCom IC-7610. Despite poor band conditions our operators stayed busy throughout most of the workable contest hours. Enjoy the report, starting on page 16.





QRM

---...--

...from the Editor's Shack

*Do you have a photo or bit of club news to share?
An Interesting link?*

*Something to sell or something you are looking for?
eMail it to [communicator @ ve7sar.net](mailto:communicator@ve7sar.net) for inclusion in this publication.*

Happy Easter! Fitting with 'The Rest Of The Story' this month is a radio event called International Marconi Day. It's a 24 hour amateur radio event that is held annually to celebrate the birth of Marconi on 25 April 1874. The event is held on the Saturday closest to Marconi's birthday and in 2018 it will be held on the 21st April. The organizers issue a very nice certificate for contacting 15 of 60 or more stations at significant sites related to Marconi.

This is also the month when we start our Spring Basic licensing course. If you have someone interested in our hobby, let them know the details from the poster in this issue or send them to our website. Club members' family receive a discount. Or, if you have Basic now, and wish to upgrade to higher privileges, we will also give a significant reduction.

We hear of the occasional theft of Amateur Radio equipment, particularly from vehicles. This month a reprint of an article we published in May 2011 'an Ounce Of Prevention' that may assist you in recovering your property if it is stolen or lost.

It was bound to happen... If you are the owner of an Apple phone, tablet or smart watch, you can now download the iCom App to interface with your new IC-7300 or IC-7610. Pretty exciting stuff.



There are positive reviews being submitted about the intuitive interface and the ease of connection. The only criticism so far seems to be the absence of an interface for controlling the iCom power amplifier and the lack of a rotator controller... perhaps by this time next year.

Enjoy the content of this issue of The Communicator. I think there is something for all levels in our hobby.

Oh, and Happy April 1st!

~ John VE7TI
Communicator Editor

On the Web

ve7sar.net

Between newsletters, watch your e-mail for news, announcements of Amateur Radio events, monthly meetings and training opportunities.

Click the links below to follow our presence on the web:

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or

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If at first you don't succeed, skydiving is not for you!

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The Rest Of The Story...

Guglielmo Marconi

*Have I done the world good,
or have I added a menace?*



Guglielmo Marconi

Guglielmo Marconi,
1st Marquis of Marconi

Early Years

Marconi was born into the Italian nobility as Guglielmo Giovanni Maria Marconi in Bologna on 25 April 1874, the second son of Giuseppe Marconi (an Italian aristocratic landowner from Porretta Terme) and his Irish/Scot wife Annie Jameson (daughter of Andrew Jameson of Daphne Castle in County Wexford, Ireland and granddaughter of John Jameson, founder of whiskey distillers Jameson & Sons). Between the ages of two and six, Marconi and his elder brother Alfonso were brought up by his mother in the English town of Bedford. After returning to Italy, and at the age of 18 Marconi became a neighbour of University of

Bologna physicist Augusto Righi, who had done research on Heinrich Hertz's work. Righi permitted Marconi to attend lectures at the university and also to use the University's laboratory and library. Marconi received further education in Florence at the Istituto Cavallero and, later, in Livorno. Marconi did not do well in school, according to Robert McHenry, though historian Giuliano Corradi characterizes him in his biography as a true genius. He was baptised as a Catholic but had been brought up as a member of the Anglican Church, being married into it (although this marriage was later annulled). Marconi was confirmed in the Catholic faith and became a devout member of the Church before his marriage to Maria Christina in 1927.

Radio Work

During his early years, Marconi had an interest in science and electricity and in the early 1890s he began working on the idea of "wireless telegraphy"—i.e., the transmission of telegraph messages without connecting wires as used by the electric telegraph. This was not a new idea; numerous investigators and inventors had been exploring wireless telegraph technologies and even building systems using electric conduction, electromagnetic induction and optical (light) signalling for over 50 years, but none had proven technically and commercially successful. A relatively new development came from Heinrich Hertz, who in 1888 demonstrated that one could produce and detect electromagnetic radiation, at the time commonly called "Hertzian" waves, and now generally referred to as radio waves.

There was a great deal of interest in radio waves in the physics community, but the interest was in radio as a scientific phenomenon, not in its potential as a communication method. Physicists generally looked on radio waves as an invisible form of light, a short range phenomenon that could travel only along a line of sight path, and thus its range was limited to the visual horizon like existing forms of visual signaling, making it unsuitable for long distance communication. Hertz's death in 1894 brought published reviews of his earlier discoveries including a demonstration on the transmission and detection of radio waves by the British physicist Oliver Lodge and an article about Hertz's work by Marconi's teacher, Augusto Righi. Righi's article renewed Marconi's interest in developing a wireless telegraphy system based on radio waves, a line of inquiry that Marconi noted that other inventors did not seem to be pursuing.

Developing Radio Telegraphy

Marconi, then twenty years old, began to conduct experiments in radio waves, building much of his own equipment in the attic of his home at the Villa Griffone in Pontecchio (now an administrative subdivision of Sasso Marconi), Italy with the help of his butler Mignani. He built on Hertz's original experiments and, at the suggestion of Righi, began using a coherer, an early detector based on the 1890 findings of French physicist Edouard Branly and used in Lodge's experiments, that changed resistance when exposed to radio waves. In the summer of 1894, he built a storm alarm made up of a battery, a coherer, and an electric bell, which went off when it picked up the radio waves generated by lightning.

He continued to work in the attic. Late one night in December 1894 he demonstrated a radio transmitter and receiver to his mother, a set-up that made a bell ring on the other side of the room by pushing a telegraphic button on a bench. Financed by his father, Marconi continued to read through the literature and picked up on the ideas of physicists who were experimenting with radio waves, but did a great deal to develop devices, such as portable transmitters and receiver systems, that could work over long distances, turning what was essentially a laboratory experiment into a useful communication system. Marconi came up with a functional system with many components:

- A relatively simple oscillator or spark-producing radio transmitter;
- A wire or metal sheet capacity area suspended at a height above the ground;
- A coherer receiver, which was a modification of Edouard Branly's original device with refinements to increase sensitivity and reliability;
- A telegraph key to operate the transmitter to send short and long pulses, corresponding to the dots-and-dashes of Morse code; and
- A telegraph register activated by the coherer which recorded the received Morse code dots and dashes onto a roll of paper tape.

In the summer of 1895, Marconi moved his experimentation outdoors and continued to experiment on his father's estate in Bologna. He tried different arrangements and shapes of

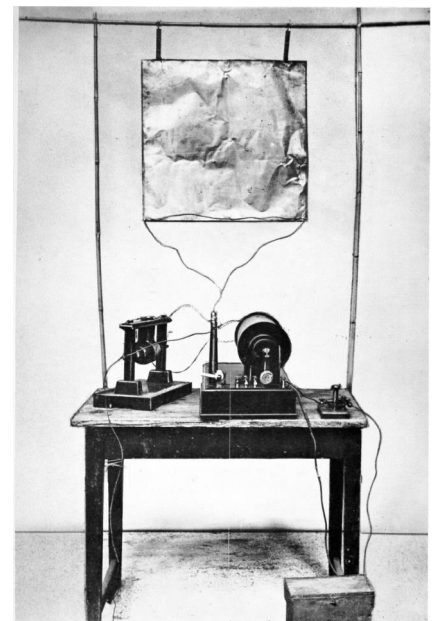
antenna but even with improvements he was able to transmit signals only up to one half mile, a distance Oliver Lodge had predicted in 1894 as the maximum transmission distance for radio waves.

Transmission Breakthrough

A breakthrough came that summer when Marconi found that much greater range could be achieved after he raised the height of his antenna and, borrowing from a technique used in wired telegraphy, grounding his transmitter and receiver. With these improvements the system was capable of transmitting signals up to 2 miles (3.2 km) and over hills. The monopole antenna reduced the frequency of the waves compared to the dipole antennas used by Hertz, and radiated vertically polarized radio waves which could travel longer distances. By this point, he concluded that a device could become capable of spanning greater distances, with additional funding and research, and would prove valuable both commercially and militarily. Marconi's experimental apparatus proved to be the first engineering-complete, commercially successful radio transmission system.

Marconi wrote to the Ministry of Post and Telegraphs, then under the direction of Pietro Lacava, explaining his wireless telegraph machine and asking for funding. He never received a response to his letter, which was eventually dismissed by the Minister, who wrote "to the Longara" on the document, referring to the insane asylum on Via della Lungara in Rome.

In 1896, Marconi spoke with his family friend Carlo Gardini, Honorary Consul at the United States Consulate in Bologna, about leaving Italy to go to England. Gardini wrote a letter of introduction to the Ambassador of Italy in London, Annibale Ferrero, explaining who Marconi was and about these extraordinary discoveries. In



Marconi's first transmitter incorporating a monopole antenna. It consisted of an elevated copper sheet (top) connected to a Righi spark gap (left) powered by an induction coil (center) with a telegraph key (right) to switch it on and off to spell out text messages in Morse code.

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his response, Ambassador Ferrero advised them not to reveal the results until after they had obtained the patents. He also encouraged him to come to England where he believed it would be easier to find the necessary funds to convert the findings from Marconi's experiment into a practical use. Finding little interest or appreciation for his work in Italy, Marconi travelled to London in early 1896 at the age of 21, accompanied by his mother, to seek support for his work. (He spoke fluent English in addition to Italian.) Marconi arrived at Dover and the Customs officer opened his case to find various apparatus. The customs officer immediately contacted the Admiralty in London. While there, Marconi gained the interest and support of William Preece, the Chief Electrical Engineer of the British Post Office.

The British Become Interested

Marconi made his first demonstration of his system for the British government in July 1896. A further series of demonstrations for the British followed—by April 1897, Marconi had transmitted Morse code signals over a distance of about 6 kilometres (3.7 mi) across Salisbury Plain. On 13 May 1897, Marconi sent the world's first ever wireless communication over open sea. The experiment, based in Wales, witnessed a message transversed over the Bristol Channel from Flat Holm Island to Lavernock Point in Penarth, a distance of 6 kilometres (3.7 mi). The message read "Are you ready". The transmitting equipment was almost immediately relocated to Brean Down Fort on the Somerset coast, stretching the range to 16 kilometres (9.9 mi).

Impressed by these and other demonstrations, Preece introduced Marconi's ongoing work to the general public at two important London lectures: "Telegraphy without Wires", at the Toynbee Hall on 11 December 1896; and "Signaling through Space without Wires", given to the Royal Institution on 4 June 1897.

Numerous additional demonstrations followed, and Marconi began to receive international attention. In July 1897, he carried out a series of tests at La Spezia, in his home country, for the Italian government. A test for Lloyds between Ballycastle and Rathlin Island, Northern Ireland, was conducted on 6 July 1898. The English channel was crossed on 27 April 1899, from Wimereux, France to South Foreland Lighthouse, England. Marconi set up an experimental base at the Haven Hotel, Sandbanks, Poole Harbour, Dorset, where he erected a 100-foot high mast. He became friends with the van Raaltes, the owners of Brownsea Island in Poole Harbour, and his sailing boat, the Elettra, was often moored on Brownsea or at the Haven Hotel, when he was not conducting experiments at sea.

In December 1898, the British lightship service authorized the establishment of wireless communication between the South Foreland lighthouse at Dover and the East Goodwin lightship, twelve miles distant. On 17 April 1899 the East Goodwin lightship sent a signal on behalf of the merchant vessel Elbe which had run aground on Goodwin Sands. The message was received by the radio operator of the South Foreland lighthouse, who summoned the aid of the Ramsgate lifeboat.

In the autumn of 1899, the first demonstrations in the United States took place. Marconi had sailed to the U.S. at the invitation of the New York Herald newspaper to cover the America's Cup international yacht races off Sandy Hook, New Jersey. The transmission was done aboard the SS Ponce, a passenger ship of the Porto Rico Line. Marconi left for England on 8 November 1899 on the American Line's SS Saint Paul, and he

Marconi watching associates raising the kite (a "Levitor" by B.F.S. Baden-Powell) used to lift the antenna at St. John's, Newfoundland, December 1901

Marconi sent the world's first ever wireless communication over open sea



and his assistants installed wireless equipment aboard during the voyage. On 15 November Saint Paul became the first ocean liner to report her imminent return to Great Britain by wireless when Marconi's Royal Needles Hotel radio station contacted her 66 nautical miles off the English coast.

At the turn of the 20th century, Marconi began investigating the means to signal completely across the Atlantic in order to compete with the transatlantic telegraph cables. Marconi established a wireless transmitting station at Marconi House, Rosslare Strand, Co. Wexford in 1901 to act as a link between Poldhu in Cornwall, England and Clifden in Co. Galway, Ireland. He soon made the announcement that the message was received at Signal Hill in St John's, Newfoundland (now part of Canada) on 12 December 1901, using a 500-foot (150 m) kite-supported antenna for reception—signals transmitted by the company's new high-power station at Poldhu, Cornwall. The distance between the two points was about 2,200 miles (3,500 km). It was heralded as a great scientific advance, yet there also was, and continues to be, considerable skepticism about this claim. The exact wavelength used is not known, but it is fairly reliably determined to have been in the neighbourhood of 350 meters (frequency ≈ 850 kHz). The tests took place at a time of day during which the entire transatlantic path was in daylight. It is now known (although Marconi did not know then) that this was the worst possible choice. At this medium wavelength, long distance transmission in the daytime is not possible because of heavy absorption of the skywave in the ionosphere. It was not a blind test; Marconi knew in advance to listen for a repetitive signal of three clicks, signifying the Morse code letter S. The clicks were reported to have been heard faintly and sporadically. There was no independent confirmation of the reported reception, and the transmissions were difficult to distinguish from atmospheric noise. (A detailed technical review of Marconi's early transatlantic work appears in John S. Belrose's work of 1995.) The Poldhu transmitter was a two-stage circuit.

Feeling challenged by skeptics, Marconi prepared a better organized and documented test. In February 1902, the SS Philadelphia sailed west from Great Britain with Marconi aboard, carefully recording signals sent daily from the Poldhu station. The test results produced coherer-tape reception up to 1,550 miles (2,490 km), and audio reception up to 2,100 miles (3,400 km). The maximum distances were achieved at night, and these tests were the first to show that radio signals for medium wave and longwave transmissions travel much farther at night than in the day. During the daytime, signals had been received up to only about 700 miles (1,100 km), less than half of the distance claimed earlier at Newfoundland, where the transmissions had also taken place during the day. Because of this, Marconi had not fully confirmed the Newfoundland claims, although he did prove that radio signals could be sent for hundreds of kilometers, despite some scientists' belief that they were limited essentially to line-of-sight distances.

On 17 December 1902, a transmission from the Marconi station in Glace Bay, Nova Scotia, Canada became the world's first radio message to cross the Atlantic from North America. In 1901, Marconi built a station near South Wellfleet, Massachusetts that sent a message of greetings on 18 January 1903 from United States President Theodore Roosevelt to King Edward VII of the United Kingdom.

*It is now known
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*Marconi demonstrating
apparatus he used in his
first long distance radio
transmissions in the 1890s.
The transmitter is at right,
the receiver with paper
tape recorder at left.*



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However, consistent transatlantic signaling was difficult to establish.

Marconi began to build high-powered stations on both sides of the Atlantic to communicate with ships at sea, in competition with other inventors. In 1904, a commercial service was established to transmit nightly news summaries to subscribing ships, which could incorporate them into their on-board newspapers. A regular transatlantic radio-telegraph service was finally begun on 17 October 1907 between Clifden, Ireland and Glace Bay, but even after this the company struggled for many years to provide reliable communication to others.

Titanic

The role played by Marconi Co. wireless in maritime rescues raised public awareness of the value of radio and brought fame to Marconi, particularly the sinking of the RMS Titanic on 15 April 1912 and the RMS Lusitania on 7 May 1915.

RMS Titanic radio operators Jack Phillips and Harold Bride were not employed by the White Star Line but by the Marconi International Marine Communication Company. After the sinking of the ocean liner on 15 April 1912, survivors were rescued by the RMS Carpathia of the Cunard Line. Also employed by the Marconi Company was David Sarnoff, who later headed RCA. Wireless communications were reportedly maintained for 72 hours between Carpathia and Sarnoff, but Sarnoff's involvement has been questioned by some modern historians. When Carpathia docked in New York, Marconi went aboard with a reporter from The New York Times to talk with Bride, the surviving operator.

On 18 June 1912, Marconi gave evidence to the Court of Inquiry into the loss of Titanic regarding the marine telegraphy's functions and the procedures for emergencies at sea. Britain's postmaster-general summed up, referring to the Titanic disaster: "Those who have been saved, have been saved through one man, Mr. Marconi...and his marvelous invention." Marconi was offered free passage on Titanic before she sank, but had taken Lusitania three days earlier. As his daughter Degna later explained, he had paperwork to do and preferred the public stenographer aboard that vessel.

Continuing Work

Over the years, the Marconi companies gained a reputation for being technically conservative, in particular by continuing to use inefficient spark-transmitter technology, which could be used only for radio-telegraph operations, long after it was apparent

that the future of radio communication lay with continuous-wave transmissions which were more efficient and could be used for audio transmissions. Somewhat belatedly, the company did begin significant work with continuous-wave equipment beginning in 1915, after the introduction of the oscillating vacuum tube (valve). The New Street Works factory in Chelmsford was the location for the first entertainment radio broadcasts in the United Kingdom in 1920, employing a vacuum tube transmitter and featuring Dame Nellie Melba. In 1922, regular entertainment broadcasts commenced from the Marconi Research Centre at Great Baddow, forming the prelude to the BBC, and he spoke of the close association of aviation and wireless telephony in that same year at a private gathering with Florence Tyzack Parbury, and even spoke of interplanetary wireless communication.

Later Years

In 1914, Marconi was made a Senator in the Italian Senate and appointed Honorary Knight Grand Cross of the Royal Victorian Order in the UK. During World War I, Italy joined the Allied side of the conflict, and Marconi was placed in charge of the Italian military's radio service. He attained the rank of lieutenant in the Italian Army and of commander in the Italian Navy. In 1929, he was made a marquess by King Victor Emmanuel III.

Marconi joined the Italian Fascist party in 1923. In 1930, Italian dictator Benito Mussolini appointed him President of the Royal Academy of Italy, which made Marconi a member of the Fascist Grand Council.

Marconi died in Rome on 20 July 1937 at age 63, following a series of heart attacks, and Italy held a state funeral for him. As a tribute, shops on the street where he lived were "Closed for national mourning". In addition, at 6 pm the next day, the time designated for the funeral, all BBC transmitters and wireless Post Office transmitters in the British Isles observed two minutes of silence in his honour. The British Post Office also sent a message requesting that all broadcasting ships honour Marconi with two minutes of broadcasting silence as well. His remains are housed in the Villa Griffone at Sasso Marconi, Emilia-Romagna, which assumed that name in his honour in 1938.

In 1943, Marconi's elegant sailing yacht, the Elettra, was commandeered and re-fitted as a warship by the German Navy. She was sunk by the RAF on 22 January 1944. After the war, the Italian Government tried to retrieve the wreckage, to re-build the boat, and the wreckage was removed to Italy. Eventually, the idea was abandoned, and the wreckage was cut into pieces which were distributed amongst Italian museums.

In 1943, the Supreme Court of the United States handed down a decision on Marconi's radio patents restoring some of the prior patents of Oliver Lodge, John Stone, and Nikola Tesla. The decision was not about Marconi's original radio patents and the court declared that their decision had no bearing on Marconi's claim as the first to achieve radio transmission, just that since Marconi's claim to certain patents were questionable, he could not claim infringement on those same patents. There are claims the high court was trying to nullify a World War I claim against the United States government by the Marconi Company via simply restoring the non-Marconi prior patent.

Personal Life

As recorded above, Marconi became friends of Charles van Raalte and his wife Florence, the owners of Brownsea Island; and of Margherita, their daughter, and in 1904 he met her friend, the Hon. Beatrice O'Brien (1882-1976), a daughter of Edward O'Brien, 14th Baron Inchiquin. On 16 April 1905, Beatrice O'Brien and Marconi were married, and spent their honeymoon on Brownsea Island. They had three daughters, Degna (1908-1998), Gioia (1916-1996), and Lucia (born and died 1906), and a son, Giulio, 2nd Aprilese Marconi (1910-1971).

In 1913, the Marconis returned to Italy and became part of Rome society. Beatrice served as a lady-in-waiting to Queen Elena. The Marconis divorced in 1924, and, at Marconi's request, the marriage was annulled on 27 April 1927, so he could remarry. Beatrice Marconi married her second husband, Liborio Marignoli, Aprilese di Montecorona, on 3 April 1924 and had a daughter, Flaminia.

On 12 June 1927 (religious 15 June), Marconi married Maria Cristina Bezzi-Scali (1900-1994), only daughter of Francesco, Count Bezzi-Scali. They had one daughter, Maria Elettra Elena Anna (born 1930), who married Prince Carlo Giovannelli (1942-2016) in 1966; they later divorced. For unexplained reasons, Marconi left his entire fortune to his second wife and their only child, and nothing to the children of his first marriage.

Later in life, Marconi was an active Italian Fascist and an apologist for their ideology and actions such as the attack by Italian forces in Ethiopia.

Marconi wanted to personally introduce in 1931 the first radio broadcast of a Pope, Pius XI, and did announce at the microphone: "With the help of God, who places so many mysterious forces of nature at man's disposal, I have been able to prepare this instrument which will give to the faithful of the entire world the joy of listening to the voice of the Holy Father".

The Canadian Connection

The 'Marconi's Wireless Telegraph Company of Canada' (now CMC Electronics, of Montreal, Canada, was created in 1903 by Guglielmo Marconi. In 1925 the company was renamed to the 'Canadian Marconi Company', which was acquired by English Electric in 1953. The company name changed again to CMC Electronics Inc. (French: CMC Électronique) in 2001.

As of 2016 the Canadian Marconi Company and CMC Electronics no longer exist. Most bought up by Esterline in Ottawa. The Marine Service Group was acquired by MacKay Marine but many of the employees left the group at transition.

The Marconi National Historic Sites of Canada was created by Parks Canada as a tribute to Marconi's vision in the development of radio telecommunications. It is located at Table Head in Glace Bay, the site of Marconi's first transatlantic wireless station, call sign VAS, and the first wireless message sent from North America to Europe on December 15, 1902. The site features the remnants of Marconi's transmission towers, a modern amateur radio station, plus a museum chronicling Marconi's achievements. Marconi chose this site for its elevated flat expanse and unobstructed view out over the Atlantic Ocean. Some of the concrete footings for the massive towers can still be seen on the grounds. A spark gap transmitter with 75 kilowatts of power fed four tall antennas on the 2-hectare (4.9-acre) site overlooking the ocean.

Marconi's facilities were dismantled and moved to a larger site to the southwest in 1905, known today as the Marconi Wireless Station National Historic Site. The site was designated a National Historic Site in 1939. The site is operated by Parks Canada,

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Back to Basics

John Schouten VE7TI

From The Basic Question Bank

B-004-005-008

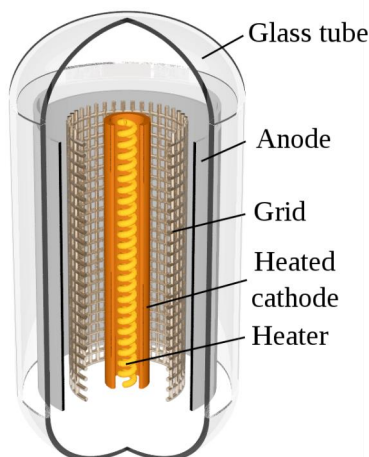
What is inside the envelope of a triode tube?

- A. A vacuum
- B. Argon
- C. Air
- D. Neon

There are about a dozen questions in the Basic Question Bank that relate to triode vacuum tubes and you're sure to see the term on the Basic exam. The answers are here.

The first vacuum tube used in radio was the thermionic diode or Fleming valve, invented by John Ambrose Fleming in 1904 as a detector for radio receivers. It was an evacuated glass bulb containing two electrodes, a heated filament and a plate (anode). Triodes came about in 1906 when American engineer Lee De Forest and Austrian physicist Robert von Lieben independently patented tubes that added a third electrode, a grid, between the filament and

plate to control current. Von Lieben's partially-evacuated three-element tube, patented in March 1906, contained a trace of mercury vapor and was intended to amplify weak telephone signals. Starting in October 1906 De Forest patented a number of three-element tube designs by adding an electrode to the diode, which he called Audions, intended to be used as radio detectors. The one which became the design of the triode, in which the grid was located between the filament and plate, was patented January 29, 1907. Like the von Lieben vacuum tube, De Forest's Audions were incompletely evacuated and contained some gas at low pressure. Von Lieben's



vacuum tube did not see much development due to his death 7 years after he invented it at the outbreak of World War I.

De Forest's Audion did not see much use until its ability to amplify was recognized around 1912 by several researchers, who used it to build the first successful amplifying radio receivers and electronic oscillators. The many uses for amplification motivated its rapid development. By 1913 improved versions with higher vacuum were developed by Harold Arnold at American Telephone and Telegraph Company, which had purchased the rights to the Audion from De Forest, and Irving Langmuir at General Electric, who named his tube the "Pliotron". These were the first vacuum tube triodes. The name "triode" appeared later, when it became necessary to distinguish it from other kinds of vacuum tubes with more or fewer elements (e.g. diodes, tetrodes, pentodes, etc.). There were lengthy lawsuits between De Forest and von Lieben, and De Forest and the Marconi Company, who represented John Ambrose Fleming, the inventor of the diode.

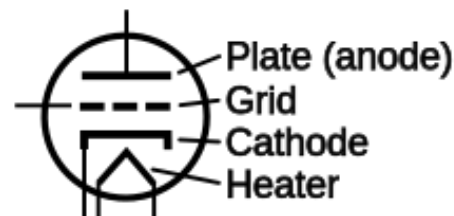
The discovery of the triode's amplifying ability in 1912 revolutionized electrical technology, creating the new field of electronics, the technology of active (amplifying) electrical devices. The triode was immediately applied to many areas of communication. Triode "continuous wave" radio transmitters replaced the cumbersome inefficient "damped wave" spark gap transmitters, allowing the transmission of sound by amplitude modulation (AM). Amplifying triode radio receivers, which had the power to drive loudspeakers, replaced weak crystal radios, which had to be listened to with earphones, allowing families to listen together. This resulted in the evolution of radio from a commercial message service to the first mass communication medium, with the beginning of radio broadcasting around 1920. Triodes made transcontinental telephone service possible.

Vacuum tube triode repeaters, invented at Bell Telephone after its purchase of the Audion rights, allowed telephone calls to travel beyond the unamplified limit of about 800 miles. The opening by Bell of the first transcontinental telephone line was celebrated 3 years later, on January 25, 1915. Other inventions made possible by the triode were television, public address systems, electric phonographs, and talking motion pictures.

The triode served as the technological base from which later vacuum tubes developed, and was very widely used in consumer electronics such as radios, televisions, and audio systems until it was replaced in the 1960s by the transistor, invented in 1947, which brought the "vacuum tube era" introduced by the triode to a close. Today triodes are mostly used in high-power applications for which solid state semiconductor devices are unsuitable, such as radio transmitters and high power amplifiers.

In the triode, electrons are released into the tube from the metal cathode by heating it, a process called thermionic emission. The cathode is heated red hot by a separate current flowing through a thin metal filament. In most triodes the filament heats a separate cathode electrode. The elements are sealed inside a glass container from which the air has been removed to a **high vacuum** allowing electrons to flow freely. The negative electrons are attracted to the positively charged plate (anode), and flow through the spaces between the grid wires to it, creating a current through the tube from cathode to plate.

The magnitude of this current can be controlled by a voltage applied between the cathode and the grid. The grid acts like a gate for the electrons. A more negative voltage on the grid will repel some of the electrons, so fewer get through to the plate, reducing the plate current. A positive voltage on the grid will attract more electrons from the cathode, so more reach the plate, increasing the plate current. Therefore, a low power varying (AC) signal applied to the grid can control a much more powerful plate current, resulting in amplification.



Since the filament eventually burns out, the tube has a limited lifetime and is made as a replaceable unit; the electrodes are attached to terminal pins which plug into a socket.

The correct answer to our question therefore is
A. A vacuum

For a great reference on everything vacuum tube related, check out the on-line RCA receiving tube manual at https://archive.org/details/RCA_RC-30_1975

Our next Basic Course starts April 3rd.

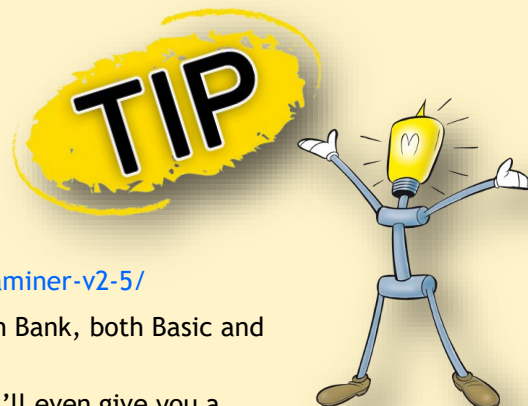
~ John VE7TI

Study Links

Whether you are new to the hobby or brushing up on skills, you should find these study links helpful:

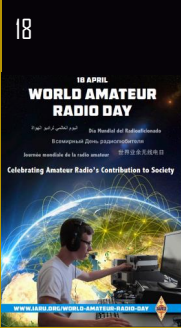
1. RIC-7 is the entire up-to-date Industry Canada (IC) Basic Question Bank.
<http://tinyurl.com/CanadaBasicQB>
2. There is a RIC-7 that has some explanations along with the questions.
[RIC-7 2014rev08.05 with explanations.](#)
3. The Amateur Radio Exam Generator is at:
https://www.ic.gc.ca/eic/site/025.nsf/eng/h_00040.html
4. The ExHaminer Study software for Windows is at: <https://wp.rac.ca/exhaminer-v2-5/>
5. The Ham Study website has a flash card approach to learning the Question Bank, both Basic and Advanced. It is at: <https://hamstudy.org>

Contact SARC if you wish to write the Basic or Advanced Exam. If you pass we'll even give you a year's free membership!



April 2018

April 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1  Happy April Fools Day	2	3 1930 SEPAR Net 2000 SARC Net	4	5	6	7 08-1000 Club Social: Kalmar Family Restaurant King George Blvd & 81st Avenue Richmond HamFest and Emerg Comms Display
8	9	10 1930 SEPAR Net 2000 SARC Net	11 1900 SARC Monthly General Meeting	12	13	14 08-1000 Club Social: Kalmar Family Restaurant Seattle Communications Academy
15 Seattle Communications Academy CONTEST: ARRL Rookie RoundUp (SSB)	16	17 1930 SEPAR Net 2000 SARC Net	18 	19	20	21 08-1000 Club Social: Kalmar Family Restaurant CONTEST: CQMM (CW) CONTEST: International Marconi Day (Page 25)
22 CONTEST: CQMM (CW)	23	24 1930 SEPAR Net 2000 SARC Net	25 SARC Exec Meeting	26	27	28 08-1000 Club Social: Kalmar Family Restaurant
29	30			For details on all SARC events, go to ve7sar.net For details on all SEPARS events, go to separ.shutterfly.com/calendar		



Page 13—News You Can Lose

The Lighter Side of Amateur Radio

FCC Expanding License Printing Options

By WBØRUR, on the scene

WASHINGTON, D.C. - In a shocking turnaround, the Federal Communications Commission has reversed its decision to halt the printing of paper amateur radio licenses. In fact, federal administrators say they will do just the opposite and expand printing options available to ham operators.

“We really didn’t understand the outcry that would come from the ham radio community,” says Pontus “Smokey” Blumenthal, FCC spokesman (formerly with the now-disbanded Federal Park Service). “We are getting a lot of bad press on the forums, in social media and at ham club meetings. We were only attempting to reduce overhead, lower our expenses and bring the budget more in line with expected revenues. But we may have been shortsighted and are now seeing new cash flow opportunities.”

Blumenthal says effective April 1, applicants receiving a new license or current amateurs renewing existing licenses may opt for one of several print options for a nominal charge. At press time those options are:

Plain paper: license emailed to you; print at home: **FREE**

Heavy card stock: print at agency and shipped in mailing tube to your home: \$19.95 plus shipping and handling.

“Old World Style” parchment with the words “Past Here Be Sea Monsters” along the margins, printed and shipped to your house in well-packed box: \$49.95 plus tip for the delivery guy. *[above right]*

Richly colored vellum paper with license info printed in squid ink; printed and shipped to your home in a hermetically sealed box: \$129.95



License printed on actual 1-inch thick sheet of Lucite suitable for use as an entire radio operating desk top; printed by laser etcher and shipped via common carrier truck to your residence (no P.O. Box delivery): \$1299

Deer hide license

Tanned 3'x3' deer hide *[right]*, license is hand printed by Native American Navajo artisans using buffalo ink; printed and shipped to your home in a secured shipping container accompanied by armed guard: \$4250 (Note: the FCC does not keep deer hide in stock and must dispatch a team of hunters each time an order is placed, so be patient.)



Blumenthal says all hams should take advantage of this new vanity licensing printing program. However he encourages orders to be placed soon; they are managed on a first come, first served basis.

At this time there is no response whether Canadian licensing authorities will follow suit, however birch bark seems to be a popular option.

~ Ham Hijinks

April 2018



At The Last SARC Meeting

January Meeting Minutes

Wednesday, March 14, 2018

*Location: LDS Meeting Hall
6270 126th St, Surrey, BC*

Stan Williams VA7NF Introduction

At approximately 1905 hr, Stan welcomed everyone to the March meeting of the Surrey Amateur Radio Club. New members and visitors were asked to introduce themselves. Jinty Reid VA7JMR added her welcome. Approximately 35 members and guests attended.

Scott Hawrelak VE7HA Financial

An abbreviated financial report was provided to allow more time for the presentation. Scott invited members who wish more detailed information to speak with him and, in addition, noted that annual dues for 2018/2019 fiscal year could be paid at the meeting.

Anton James VE7SSD Fox Hunt

The SARC Fox Hunt this year is at Crescent Park May 19th. More information can be found on the SARC website. A BBQ will follow the end of the Fox Hunt. At the April meeting Les Tolko and Keith Witney will talk about the 80m receivers and fox hunting in general.

John Brodie VA7XB OTC Update

We now have an IC-7610 running at the OTC. It will be given a workout on March 23/24th during the CQ WW WPX

SSB contest. See: <https://www.cqwp.com/>. This contest provides a good opportunity for those that would like to get some experience in contesting before Field Day 2018. The club also has a 1.5kw linear amplifier on order and it is expected in a few weeks. Our gaming grant is now fully spent.

Sheldon Ward VA7XNL Field Day

Last Sunday the first Field Day Committee meeting was held. The committee has chosen to hold Field Day at the same location as last year. This year will be a bit more competitive and will require operators to have at least minimal experience with contesting and logging with N1MM+ ahead of Field Day. Anyone who would like to volunteer to help with Field Day should let Sheldon Ward or one of the directors know.

Ed Vandeyck VE7GHV Announcement from Scouts Canada

JOTA Jamboree on The Air this year will be held on Oct 19-21 at Camp McLean 20315 16th Ave., Langley, BC, Canada

<https://www.scouting.org/jota/>

<https://www.evensi.ca/1st-annual-camp-mclean-jota-joti-stem-weekend/250748413>

<http://jotajoti.info/>

Presentation by Clint Bradford K6LCS via Skype

ARRL Instructor and Legacy Circle Club member Clint Bradford K6LCS gave a comprehensive presentation on working Amateur Radio Satellites. Attendees were invited to download a four-page tutorial at: <http://www.work-sat.com>

For more info a voicemail can be left at 909-999-SATS (909-999-7287), or email to k6lcs@ham-sat.info.

Many thanks to Clint for his entertaining and enlightening presentation, which stimulated a number of questions from the audience.

Trivia Questions (Door Prize Winners)

- John Brodie
- Nell Wrotniak

- Ian Smith
- Keith Witney
- Art Witmans
- Sheldon Ward
- Jeremy Morse
- Nell Wrotniak
- Ralph Wrotniak (GO SAT software code)

The meeting was adjourned at approx. 2100 hr.

~ Jeremy VE7TMY



Our guest presenter Clint deserves a medal for his excellent and entertaining presentation, and overcoming the hiccups and technical difficulties. It made for awkwardness at both ends but it worked. Thank you for taking so much effort to tune the presentation to our local audience. We received several first-time visitors, including some non-hams. We also interested some of the visitors in our Spring Basic class.



Among the feedback received: "I would like to see a repeat session focusing on just the last ten slides..."

April 2018

The Contest Contender

John Brodie VA7XB

SARC's New IC-7610 Makes its Debut



The contest was sufficiently long to put our new IC-7610 through its paces and test the various features...

The CQ WW WPX SSB contest which took place over 48 hours on the weekend of March 24/25 was sufficiently long to put our new IC-7610 through its paces and test the various features of this excellent radio. All operators were able to figure out and use the basic controls in conjunction with the logger, so the experience was very satisfactory.

However, getting the radio working with N1MM+ Logger was a frustrating exercise. Port assignments were the primary bugaboo, eventually resolved by following the detailed procedure outlined by K3CT on hamdocs.com. Nevertheless, I wasn't able to get it functioning perfectly on CW, the problem being that auto-CW using the function keys had a glitch, i.e. the ratio of dot to dash length was incorrect at speeds over 25 wpm. This wasn't resolved at the time of writing.

However that problem wasn't important for the WPX contest, which is strictly SSB. On SSB, I was successful with all aspects of the setup including N1MM's voice recording function which allows wav files to be set up and sent very easily. The consensus of the various operators was, however, that a more satisfactory result would be obtained by use of Audacity with its editing functions, and that is what we should probably do in future. RTTY also functioned satisfactorily with N1MM+.

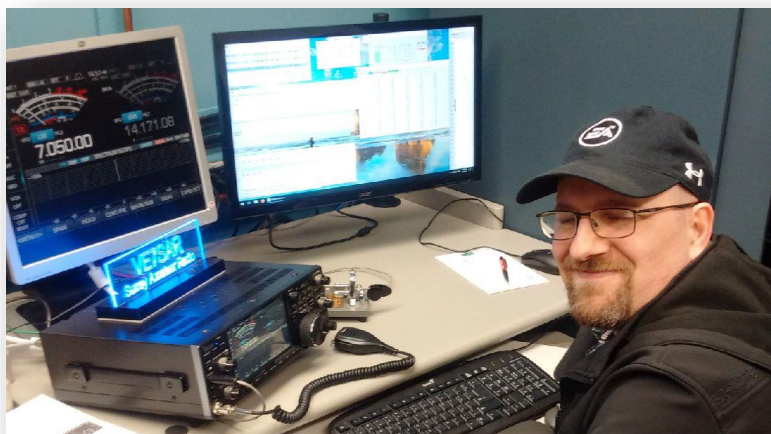
For the contest we had a good response from the membership, with a mix of experienced operators who just wanted operating time, and newbies who had either never contested or had limited experience. Almost the entire schedule was filled throughout the usable hours from 5 pm Friday to 5 pm Sunday.

Putting in shifts of 2 to 4 hours were: Jason VA7ITJ, Michael VE7GMP, Steve VE7SXM, John VE7TI, Alex VE7ADA, Dave VA7DRS, Anton VE7SSD, Jan VA7VJ, Jeremy VE7TMY, Ralph VA7UB, Nell VA7PE, and John VA7XB.

Special thanks are due to Stan VA7NF, John VE7TI, Dave VA7DRS and John VA7XB for taking on coaching duties.

Unfortunately, band conditions were terrible! The group didn't succeed in making a single contact with Africa or Europe, neither did we hear operators in the Eastern States and Provinces working into Europe. The best we could do from here was North America, the Caribbean, South America, and a few contacts with Japan and Australia. Perhaps the lack of DX discouraged many contestants from sticking with it as even the number of North Americans seemed fewer than usual. However, it was a great experience and all seemed to enjoy themselves. In preparation for Field Day, we need to look for further contesting opportunities over the next few months to hone our skills.

~ John VA7XB



John VE7TI and Jeremy VE7TMY. Below Nell VA7PE, Ralph VA7UB and Jan VA7VJ



Hi Guys

Just came across your magazine... Great Work!

Looking forward to reading the back catalogue...

73 de David G0EVA

Thank you... all we can say is: "Spread the word!" —Ed.

April 2018



Score - 187,000 Points				
Band	QSOs	Pts	WPX	Pt/Q
3.5	31	111	17	3.6
7	77	300	34	3.9
14	220	474	136	2.2
21	20	50	13	2.5
Total	348	935	200	2.7
Score: 187,000				
1 Mult = 1.7 Q's				

Working the CQ WPX SSB Contest:

Top row: Steve VE7SXM, John VE7TI, Alex VE7ADA Centre row: Dave VA7DRS, Jeremy VE7TMY, Anton VE7SSD

Bottom row: Michael VE7GMP, Stan VE7NF mentoring Jason VE7ITJ, our final totals

For Sale: iCom IC-7100

This IC 7100 is as new, no blemishes or scratches and comes in it's original box and packing. I am asking C\$1285. I had a headset with boom mike custom made for the radio, it has a socket in the harness for a foot switch which the purchaser would have to provide. I am willing to throw in the headset free of charge to the purchaser. The radio has been in my living room since new and has been used as my base station, it has never been installed in a vehicle and has been well treated as would a baby.

I also have the LDG IT-100 antenna tuner that is specifically made for this radio, I would be happy to negotiate a price with the purchaser of the radio. Email at rmfish@telus.net



**Register
Now!**



Surrey Amateur Radio Club

Industry Canada
BASIC AMATEUR RADIO
Qualification Course

What Can I Do With My Radio License?

- | | |
|---|--|
| • Long range communications anywhere for free without commercial infrastructure | • Enhance your personal and your community's preparedness in an emergency |
| • Use satellite communication to speak around the world, perhaps even to an astronaut | • Use a computer, smartphone or tablet for free worldwide digital communications |
| • Participate in 'Radio Sports' like contesting and Fox Hunting | • Practice an exciting hobby |

Learn In A Professional Setting
Qualified, Experienced Instructors

Practical Demonstrations
Technical Knowledge Not Required

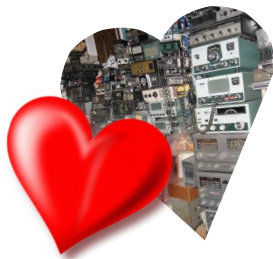
Fee \$100
Includes Course Manual

Surrey Amateur Radio Club
For more information on the course visit
www.ve7sar.net or contact
sarc@ve7sar.net



Course starts April 3, 2018
8 sessions on Tuesdays 6:30pm—9:30pm
plus one optional Saturday workshop
Surrey Fire Training Centre
14901 64 Avenue, Surrey, BC

April 2018



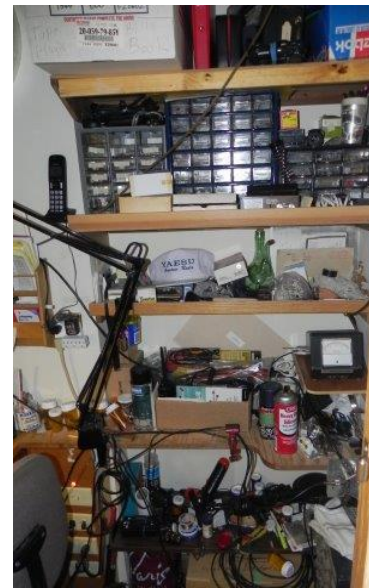
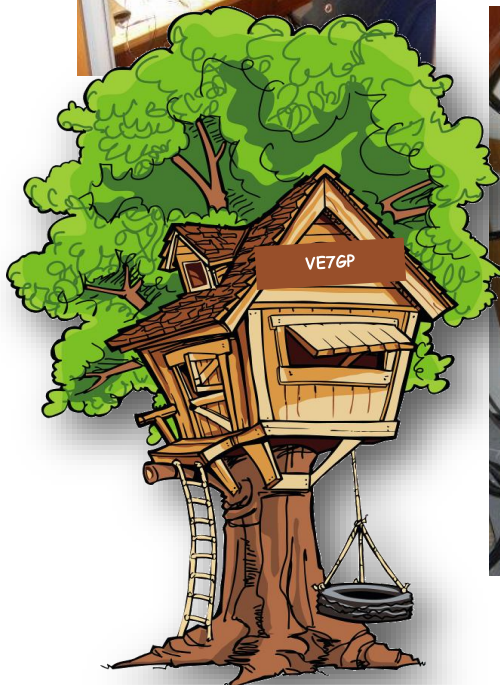
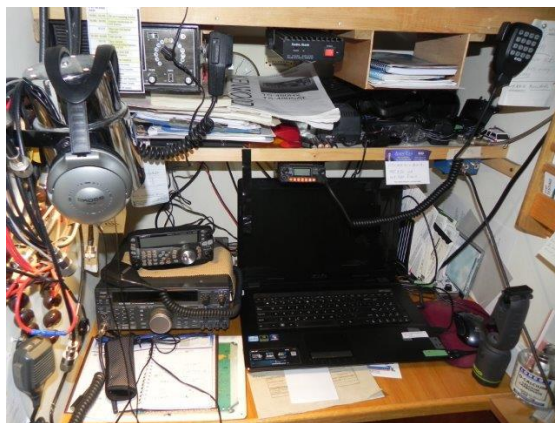
My Shack

Kjeld Frederiksen VE7GP

Here are a couple of pictures of my radio shack, just to prove that you don't need a big room, just to collect a lot of stuff. The room is 42" x 66". One picture shows my 110 V power supply, where I have 2 switches to disconnect everything in the shack when I leave the room.

I have 2 HF radios, a computer, and a small tri-band radio, plus a marine radio (that I hardly ever listen to). I don't have a proper antenna for that anyway.

~ Kjeld VE7GP



SARC-SEPAR Field Day 2018

Planning is underway. Field Day 2018 is less than 4 months away. The 16 member Field Day Committee met to discuss the format of the 2018 event.

We welcomed two new club and committee members

- Jason VA7IJT from the Spring 2017 class
- David VA7DRS from Coquitlam

Our first priorities are to decide where and when are we going to meet and the frequency of meetings.

The initial meeting topics:

- How did last year's event go, in general and for you?
- Field Day in the field or indoors? Both?
- What type of event do we want this year?
- Select the Field Day chair

• Volunteer assignments

While all meetings are important, we first need to determine the direction we go for FD 2018.

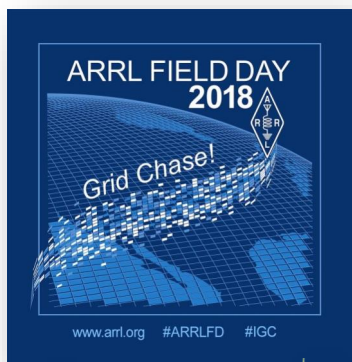
If it is in the field again this year we should get our requests for donated equipment such as a Skyjack, generators, porta-potties and field use sent soon.

And if you haven't already read my FD follow-up articles in the Communicator I would suggest doing so to get my thoughts and how we can improve in 2018. See the September 2017 and January 2018 issues. Also see the October 2017 issue for John XB's thoughts on our last FD.

Our next meeting is Sunday, April 1st at 1430 at the OTC.

~ Sheldon VA7XNL

2018 ARRL Field Day is June 23-24



From ARRL-Mark your calendar!

This year, many groups and participants may choose to combine 2018 Field Day with our yearlong operating event - 2018 ARRL International Grid Chase (IGC) - working stations in as many grid squares as possible and uploading log data to ARRL's Logbook of The World (LoTW).

For 2018 Field Day and the IGC, the standard event exchange of Field Day Class and Section is still what is sent over the air. After Field Day is where your logs can count for the IGC, but you must be sure when uploading your Field Day logs to LoTW that your TQSL Station Location includes your Grid Square - then LoTW takes care of the rest. Check out the Monthly ongoing results on the IGC Leaderboard.

April 2018



Radio-Active

Robert Fishwick VA7FMR

Profiles of SARC Members



Jason Biggin VA7ITJ

Jason was born in Vancouver in 1971. His parents recently celebrated their 50th wedding anniversary and live on the Sunshine Coast. His Father retired from BC Ferries where he spent most of his time as a Marine Engineer. His one brother and family live in Ft. McMurray. Jason grew up in North Delta and has lived most of his life there. He has spent a little bit of time in neighbouring areas: Surrey, New Westminster and Burnaby. He enjoys the parks and communities in Delta and Surrey.

Jason Graduated from the Douglas College CIS program with a certificate. He continued on with technical vendor certifications from Microsoft, Cisco and Hewlett Packard. He later earned his Project Management Professional (PMP) credentials as he focused more on IT Management.

He has worked in the IT industry for 20+ years. Employers have included Raytheon, YVR, HipDigital and presently Teligence Capital. He tells us that with each of these there has been a mixture of operational support to maintain the business, as well as projects to improve. He states that these two areas have a natural tension that must be balanced. Raytheon was his introduction to the office environment where he was mostly involved in operational support. It was a great environment with many talented people. The main project for their office was to replace the Canadian Automated Air Traffic System (CAATS). YVR was a great experience as Airports are always under construction, always changing and evolving. Here he gained more knowledge

with IT infrastructure: servers, storage and networking. There are also many airport specific systems including: flight information display, baggage, check-in kiosks and airline terminal equipment. He was lured to join HipDigital, a venture capital start up company. Here he built up the infrastructure and worked with software developers, designers and marketing staff. They created promotional websites for companies where their customers could download digital content (music, movies, books). At Teligence Capital He has led major infrastructure projects. These have included building out virtualization infrastructure and migrating 400+ servers from various data centres. These projects were performed while minimizing the impact on the business that operates 24/7. He relies on his team to plan and execute these projects and support the environment.

The best things in his life are his wife Lisa and children: Kaline, Colin and Maddison. They have experienced much of what life has offered and continue to grow together. When they can, they enjoy camping in BC parks or travelling abroad.

He and his family are committed to staying in Delta for the next 5-ish years. At this time his youngest will have graduated high school and likely be established in post-secondary. This will be their opportunity to discover a new place to call home. As much as they love living in Delta, they look forward to the next chapter when they move away from the city and enjoy a less 'busy' lifestyle.

Radio-Active Continued

He has always enjoyed working with technology and thinks that Amateur radio offers an environment to work with technology at a granular level and establish connectivity globally. He also believes that it is extremely important to be able to communicate in the case of emergencies. Shortly after obtaining his license in the Spring of 2017 he has been involved in SEPAR. Since November, he has helped out with net control on the 2nd Tuesday of the Month at 19:30hrs. Currently he is taking classes from the Justice Institute to get a better understanding of Emergency Services. He looks forward to many years of learning!

He is extremely impressed with the learning opportunities and newsletter produced by SARC. The members are very friendly and enthusiastic to share.

He regularly paddles in outrigger canoe races at a competitive level. He loves being on the water and competing. Most events are in a 6 person canoe (OC-6) and races vary in length from 1.5K to 30K. There are several BC races that are hosted by community clubs. He recently obtained a single person canoe (OC-1) and plans on competing in small boat races. More info can be found at: www.canadianoutrigger.com. He also enjoys running and regularly participates in half-marathons.

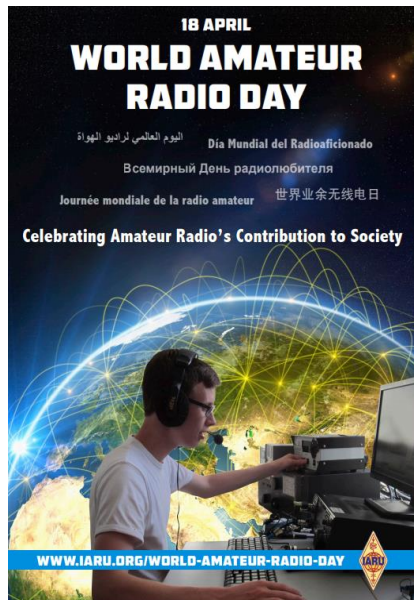
~ Robert VA7FMR

Jason at the OTC for the CQ WPX SSB Contest



World Amateur Radio Day

Every April 18, radio amateurs worldwide take to the airwaves in celebration of World Amateur Radio Day. It was on that day in 1925 that the International Amateur Radio Union was formed in Paris.



Amateur Radio experimenters were the first to discover that the short wave spectrum — far from being a wasteland — could support worldwide propagation. In the rush to use these shorter wavelengths, Amateur Radio was “in grave danger of being pushed aside,” the IARU’s history has noted. Amateur Radio pioneers met in Paris in 1925 and created the IARU to support Amateur Radio worldwide.

Just two years later, at the International Radiotelegraph Conference, Amateur Radio gained the allocations still recognized today — 160, 80, 40, 20, and 10 meters. Since its founding, the IARU has worked tirelessly to defend and expand the frequency allocations for Amateur Radio. Thanks to the support of enlightened administrations in every part of the globe, radio amateurs are now able to experiment and communicate in frequency bands strategically located throughout the radio spectrum. From the 25 countries that formed the IARU in 1925, the IARU has grown to include 160 member-societies in three regions. IARU Region 1 includes Europe, Africa, the Middle East, and Northern Asia. Region 2 covers the Americas, and Region 3 is comprised of Australia, New Zealand, the Pacific island nations, and most of Asia. The International Telecommunication Union (ITU) has recognized the IARU as representing the interests of Amateur Radio.

Today, Amateur Radio is more popular than ever, with over 3,000,000 licensed operators!

World Amateur Radio Day is the day when IARU Member-Societies can show our capabilities to the public and enjoy global friendship with other Amateurs worldwide.

More information?

<http://www.iau.org/world-amateur-radio-day.html>

April 2018

Club Station News

John Brodie VA7XB

SARC Surplus Items Disposal



Astron VS35M linear power supply (35 amp).



IC-718 HF Transceiver c/w LDG AT-100 Pro tuner.

Over the last couple of years, SARC has accumulated a large quantity of items from estate disposals and donations. Some of this equipment is being put to good use at the OTC but the remainder is being offered to SARC members in order to encourage Amateur Radio activity.

Any equipment which is not sold will ultimately make its way to swap meets. All funds generated will be used to upgrade the OTC equipment or to supplement Field Day requirements.

Each month in the Communicator, we will feature a few of the items for sale. Some of them are pictured here. The format of the sale is currently being worked out but your Directors are examining an on-line auction to ensure there is no favoritism or, in the event of equal bids, disagreement on whose bid came first.

Items are mostly untested and therefore offered "as is, where is". Members may also wish to view surplus items before or at the time they are offered for sale. Please contact any Executive member for an opportunity to view the entire inventory. Eventually these items will include transceivers, tuners, a power amplifier and various other gear. In the case of smaller or lower value items, they may be grouped as one lot.

We hope to begin the first sale by May 1st. Further details will be provided at meetings and/or via email to the SARC membership. Sheldon VA7XNL has volunteered to coordinate this activity.



MFJ Versatuner MFJ 941.



Yaesu FL-2100B Linear Amplifier.



Kenwood AT-200 Manual Tuner.

Meet Pat, A Modern Winlink Client For Amateur Radio Internet-Connected eMail And More

Open and free. Amateur Radio is all about experimenting and sharing knowledge. We need to carry forward these traditions when we explore the possibilities of digital communications. Pat is open source, simple, yet powerful. People have different preferences on how to interact with an application. Pat provides both a modern GUI and a powerful command-line interface, so most users should feel at home.

Winlink anywhere, Pat is a cross platform Winlink client written in Go. Run it on any modern operating system, including Linux, macOS and Windows.

More information and downloads at: <http://getpat.io/>

Winlink, also known as the Winlink 2000 Network, is a worldwide radio messaging system that uses amateur-band radio frequencies to provide radio interconnection services that include email with attachments, position reporting, weather bulletins, emergency relief communications, and message relay. The system is built and administered by volunteers and administered by the Amateur Radio Safety Foundation Inc., an American charitable entity. The Winlink system is open to properly licensed amateur radio operators. The system primarily serves radio users without normal access to the Internet, government and non-government public service organizations, medical and humanitarian non-profits, and emergency communications organization.

International Marconi Day

International Marconi Day (IMD) is a 24-hour amateur radio event that is held annually to celebrate the birth of Marconi on 25th April 1874. The event is usually held on the Saturday closest to Marconi's birthday, which is next Saturday April 21st. Operating hours are 0000 UTC to 2400UTC

An award is available for contacting or hearing 15 of the official award stations over the 24 hours. At the time of writing, there are over sixty stations registered for the event and six of these are from Echo India.

Three stations will operate from West Cork. The North Cork Radio Group will operate EI0IMD as usual from the Mizzen Head Signal

Station, The Avondhu Radio Club will operate EI1IMD from Brow Head and Cork Radio Club will operate EI5IMD from Marconi House in Crookhaven. EI0MAR will be active from the Martello Tower in Howth and are looking for a radio operator (s) to operate the station from 11am to 4pm, tea and biscuits provided. EI6YXQ will be operated by the Kerry Radio Club from Ballybunnion, County Kerry and EI11WAW will be active from Carndonagh, Malin Head, County Donegal.

Full details of the award and participating stations are available on the website gx4crc.com



April 2018

Surrey Emergency Program Amateur Radio



The SEPAR Report

Roger Andrews VA7VH - SEPAR Coordinator

SEPAR Challenges

Emergency radio communications for the City of Surrey Emergency Program is the basic mandate of SEPAR. We need to be well trained and capable of responding to any emergency in an effective and efficient manner.

Training requirements are being modified to meet emergency response requirements. Aside from the two basic emergency management courses described last month, each SEPAR member is required to meet a level of training before taking on responsibilities of radio communication duties. Training in Grab & Go (G&G) kit set-up, radio operations and take down is on the training list.

There will be exercises occurring to test the training of SEPAR members and provide an opportunity to work with other City of Surrey emergency response colleagues. These are annual events that will test the skills of all of the emergency responders and their ability to work together.

Interfacing with the public and demonstrating radio communication skills will be accomplished through event displays. Most of these events are focused on the younger people and the parents that accompanied them. Two regular events, Canada Day and CN Rail Family Day, allow SEPAR members to demonstrate their radio communication skills and interface with the public. We usually receive numerous questions about the radios and their effectiveness in an emergency. People generally leave with the knowledge that there is something out there as a back-up in an emergency.

Surrey Doors Open

This year, together with SARC, we also plan to take part in Surrey Doors Open. It will be on Saturday June 9, 2018 from 11am to 4pm. We need some people to attend this event at the Surrey Amateur Radio Operations and Training Centre.

From the Surrey City Website:

"Surrey Doors Open is a one day event for organizations to invite community members to "discover the story behind every door". This free event offers fun activities for all ages, behind-the-scenes guided tours, entertainment, hop-on-hop-off transportation and more! Almost 5,000 visitors attended last year."

This event brings members of the public into our space and gives us a chance to show them what SEPAR / SARC does and for youngsters to try several fun challenges.

Of course the largest emergency communications exercise of all, Field Day will take place for 24-hours on the weekend of June 23-24. More details will follow but we hope for a significant SEPAR presence this year.

Please mark these dates on your calendar. We are hopeful that we can arrange more formal training sessions in the use of the radios in the G&G kits, and Fire Hall #1 radio room and OTC. Training will be provided in Radio Room positions, duties and the interface with the EOC. Formal training will continue throughout the year to enable us to be an effective, efficient and professional part of the City of Surrey's Emergency Program.

We need to remember that we do this training because there is always the real possibility that a major event will occur. It is not a matter of IF a major disaster will occur but WHEN.

SEPAR Annual Competition

Every Year starting this April 1 2018, we start a competition that active SEPAR members can participate in. The most active member will win an MD390 DMR Radio package. You can checkout pictures of the radio and see the rules on <http://va7.ca/radio> (an interim website).

If you are not now a member, we'd love to have you on-board. Contact me at the link above.

Weekly Nets

Every Tuesday evening at 1930 hrs (7:30pm PDT) we start a ½ hour NET on a local repeater provided by the Surrey Amateur Radio Club (SARC) on 147.360 MHz +600kHz and a tone of 110.9. There may be a simplex test or a test NTS message transmitted during the NET at the Net controllers discretion. This is an excellent opportunity to practice sending and receiving this form of messaging. Besides, it adds a little spice to the regular check-ins on the net. Please join us. NTS Radiograms can be found on the SEPAR website here, or, if you would like a fillable PDF that you can enter on your computer, you can get it from here.

Thursday nights at 19:30 hours, This Net has changed! We are no longer doing a regular 2 meter simplex Net on this night. Any plans for Thursday night will be announced on the Tuesday before. This night will now be used for optional tests. For example NTS Digital exchanges, 6 meter, 2 meter 60 cm and 220 Nets. If someone wants to do a particular net on a Thursday, then please announce it on the Tuesday before.

~ Roger VA7VH
SEPAR Coordinator

In Other EmComm News

Mississippi Senator Highlights Radio Operators Rapid Response to Hawaii's False Ballistic Missile Alert

Read the full article here:

<https://goo.gl/sg1pHL>

The YouTube video:

https://www.youtube.com/watch?v=xGq_R5Bkglg

And an excellent NBC news report praising Amateur Radio's role here: <https://www.nbcnews.com/leftfield/video/ham-radios-are-last-line-of-communication-in-a-disaster-1156408387851>



Amateur Radio operators were able to confirm within 13 minutes that the alert was false...



Surrey Emergency Program Amateur Radio

April 2018



Richmond Amateur Radio Club

Richmond Amateur Radio Club

On Saturday, April 7, 2018, from 9 AM to 12:30 PM, the Richmond Amateur Radio Club (RARC) will be hosting its second annual Swap Meet and Emergency Communications Display at the South Arm United Church at 11051 No. 3 Rd. (southwest corner of No. 3 Rd. and Steveston Hwy.) in Richmond, BC.

Along with vendor tables, door prizes from local and national suppliers, and special raffles, we expect a larger display of Amateur radio emergency communications equipment and activities, inside and outdoors (weather permitting), by local clubs and municipal emergency programs. The 'RAR Café' will be there to provide coffee, beverages and snacks.

General admission is \$5 per person, with free admission to children 12 years and under. Vendor tables (six feet long) are \$20 each (\$25 if paid after Mar. 1st) and include two free admissions. Free parking is available in the church parking lot.

The event promotes Amateur radio by using the displays to inform the public about Amateur radio's role in providing emergency radio communication, demonstrate how Amateur radio supports local

community activities, and create greater public awareness of the need for emergency preparedness. The municipalities of Richmond, Surrey, Burnaby, Delta, Coquitlam and Abbotsford, and The Salvation Army were represented by the displays at last year's event.

More information about the event and advertising opportunities is on the RARC event Web site at:

<http://www.richmondarc.ca/hamfest2018.html> and you can soon even follow us on Twitter!

We look forward to your support and participation to help make our RARC Swap Meet and Emergency Communications Display a success.





RAC News

VB18FIFA: World Cup 2018 Football

Amateur Radio Marathon—June 1 to July 15

Radio Amateurs Of Canada

The special call sign VB18FIFA will be on the air from June 1 to July 15 for the 2018 FIFA World Cup in Russia.

Members of the Maritime Contest Club (MCC) will represent Canada and Radio Amateurs of Canada at the request of the Russian Amateur Radio Union (SRR), the national organization of Radio Amateurs in Russia.

The SRR has partnered with Amateur organizations in 60 countries to organize special event stations.

QSLs will be via Logbook of The World (LotW) only, and the award for working FIFA stations is available from the SRR online at: <http://fwc18.hamlogs.net>. Please see the VB18FIFA page on QRZ for more details.

Background information

“The FIFA World Cup, often simply called the World Cup, is an international association football competition contested by the senior men's national teams of the members of Fédération Internationale de Football Association (FIFA), the sport's global governing body. The championship has been awarded every four years since the inaugural tournament in 1930, except in 1942 and 1946 when it was not held because of the Second World War. The current champion is Germany, which won its fourth title at the 2014 tournament in Brazil.”

For more information visit the FIFA World Cup website at: <http://www.fifa.com/worldcup/index.html>

Amateurs Of The Year

The RAC Board considers nominations for the award and presents it if and when the nomination demonstrates the exceptional contribution made. If there are several nominations the best for that year is approved. With the addition of Don and Keith to the list, only five Canadian Radio Amateurs have received the award since 2010. For more information visit <http://wp.rac.ca/rac-amateur-of-the-year/>

Through the Amateur of the Year Award, Radio Amateurs of Canada recognizes the outstanding contributions made by Canadian Amateurs. As announced in the March-April 2108 issue of The Canadian Amateur magazine, the RAC Board of Directors takes great pleasure in selecting Don Studney, VE7DS and Keith Witney, VE7KW, as co-recipients of the RAC Amateur of the Year

Award for 2017 for their work that made VE100VIMY a part of Canadian Amateur Radio history.

The project was a uniquely Canadian special event station VE100VIMY, and the conception, planning, organizing and fulfillment of the project was done by Don Studney, VE7DS, Team Leader and Keith Witney, VE7KW, Deputy Team Leader and Chief Engineer of the Vimy Commemorative Station Society (ve100vimy.ca). Together, Don and Keith made the project happen, a project that involved more than 40,000 Amateurs around the world!



Don Studney, VE7DS and Keith Witney, VE7KW, co-recipients of 2017 RAC Amateur of the Year Award

April 2018



A Communicator Reprise

From May 2011

An Ounce Of Prevention

Take a good look around every room in your home, your ham shack as well as outside in your garage, shed and car. Consider all the things you would be sorry to lose or find hard to replace - then mark them. Particularly as Amateurs, we may have thousands of dollars worth of equipment in our car or home.

Remember that anything remotely useful or attractive is resalable. For instance, all your electrical and mechanical goods, household appliances, furniture, pictures, ornaments, antiques and silver, in fact anything can be a target of thieves. Garages and gardens sheds are also at risk. Protect your lawn mower and keep your tools locked up. They may well be used by an intruder to force his way into your home! Finally, always lock your car no matter where it is parked and remove any valuables from sight.

Marking is easy

Property Marking is a quick, easy Do-It-Yourself job, and it costs so little.

For an outlay of only a few dollars and an hour or so of your time you could be saving yourself a great deal of money, inconvenience and personal anguish.

Permanent Marking

Engraving and punching identifies your property for good. Inexpensive tools and kits for the job can be bought from DIY and hardware stores. Improvising by scratching to save yourself the outlay is acceptable but might need a little extra care.

Invisible Marking

For antiques or other valuable property which might be devalued or spoiled by visible marking, there's an invisible ultra-violet marker. Burglars cannot see it, but if something marked is stolen police can identify it with a special ultra-violet lamp. UV markers are available from most good DIY stores and stationers at around five dollars. It's important to remember that UV marking fades and will need to be renewed every so often.

There are three ways of marking

1. Engraving with an electric engraving tool, fine drill or other sharp-pointed tool. Use a template or stencil or simply do it freehand.
2. UV marking the invisible method using an ultra-violet pen. Simple to use - but needs renewing periodically.
3. Punching With a hammer and a set of punches bearing marking information. Use only on heavier metal, items such as bicycles, mowers or engines.

Note that aluminum is easily damaged by punching and should not be marked in this way.



What to engrave

At one time it was suggested that you mark your property with your SIN number. This is no longer the case. Police cannot readily trace SIN numbers, complicating the return of your property. Drivers License (DL) numbers however, can be tracked from any mobile police terminal in seconds! In most cases, police who find property in the hands of suspicious characters will attempt to verify it immediately via the Canadian Police Information Centre (CPIC) [NCIC in the United States]. Stolen property from across Canada is entered on this system and it can be accessed in seconds. Engraving the DL Province of issue before the number will assist police, for example: BC DL 1234567

In the case of a business or organization, police agencies in some jurisdictions will issue an 'Operation Provident' number. This Program is meant to provide an easily traced number to identify ownership where it is not the property of a single individual.

Where to mark your property

Where you mark your property matters, particularly if you are using the engraving method. If you prefer the mark to remain out of sight, you'll obviously choose somewhere behind or underneath the article.

If you purchase a used item that has been marked, engrave a single line through the previous marking and place your DL number above or below it. The really important thing to remember is to select a surface that can't be removed without spoiling the basic appearance or performance of the article.

Keep a record of your property

You can protect items that can't be marked, and those that can, by keeping a record of them. A simple and effective way of doing this is to photograph each item, preferably in colour, paying special attention to any distinguishing marks such as initials or crests which may be used to identify the item. Take the photograph against a plain background and include a ruler to give an idea of size.



Use the record form to keep a list of the items you have marked and where the marks are. It's a good idea to give a second copy of the list and the photographs to someone you trust for them to look after. If you have property stolen, be prepared to provide copies of serial numbers and photos to police.

Do not advertise your absence

We all chat on the various repeaters but we do not always know who is listening in. There is no expectation of privacy and the AR bands are open to monitoring by many people including unscrupulous ones with scanners. Mention of your intended absence on holidays may be advertising for those with criminal intentions to pay you a visit. As you know, the licensing database is readily available to anyone with an Internet connection and it takes only minutes to look up your call-sign for your address unless you have asked for it to be withheld.

For more advice on marking or protecting your property, contact your local police agency.

~ John VE7TI

April 2018



KB6NU's Column

Dan Romanchik, KB6NU

ARRL: How can we help?

When he's not trying to figure out which way current flows, Dan blogs about amateur radio at KB6NU.com, teaches ham radio classes, and operates CW on the HF bands. Look for him on 30m, 40m, and 80m. You can email him at cwgeek@kb6nu.com.

Although Dan's column this month relates to the ARRL, the same thoughts about helping are valid with Radio Amateurs of Canada. Fortunately, we do not have the 'political' issues currently facing the ARRL.

Recently, I received this email from a reader:

"Hi Dan,

"Hope you're doing well. I have a couple of questions about the ARRL. I've been reading your blog and other sources, and it's clear that the ARRL is in a little trouble. I have to say, though, that as soon as the current administration in D.C. notices that some of their friends can make money off of amateur radio bandwidth, the whole amateur radio service is in very serious jeopardy. The only way I can think of to counter that would be an organization like the ARRL, and I think there's really only one organization like the ARRL. Is that not true? If it is, how can we help?"

I replied that it is true that there's only one organization like the ARRL. In the past, there have been groups that have tried to compete with the ARRL, but they've never really taken off. It's an incredible amount of work to set up an organization like the ARRL and none of the alternates have been able to get to critical mass.

The second question—How can we help?—is the big question. Here are a few thoughts:

- Join the ARRL. If you're not currently a member, join. You'll have little or no influence, if you are not a member.

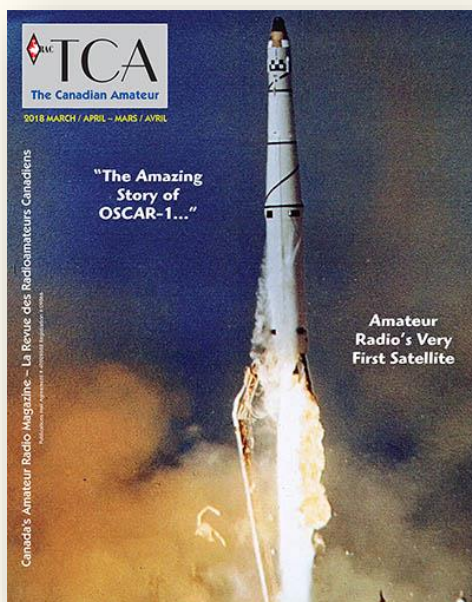
- If you are a member, but your friends are not, encourage them to join. The more members the ARRL has, the more influence it will have. This is common sense, but the ARRL doesn't really seem to care about this. In the past, I've encouraged the ARRL to set a membership goal of 25% of licensed radio amateurs ([link 1](#), [link 2](#)). I honestly don't think this is asking too much, and I've never heard a good argument for them not to do this. They continue to ignore me, and the percentage of licensed radio amateurs that are ARRL members continues to decline.
- Take an interest in ARRL matters and let your director and vice director know your views. Get your friends to do likewise. Get on the mailing lists for the board meeting agendas and minutes. To do this, log into the ARRL website, click on "Edit your profile," then "Edit email subscriptions."
- Invite your ARRL elected officials—your division director, vice director, and section manager—to talk at your club meetings. Be prepared to grill them on issues that you think are important.
- Run for office yourself. I ran for Great Lakes Division vice director twice. Unfortunately, I lost both times, but even running is a way to have an impact. I'd like to see the "loyal opposition" get organized and challenge the status quo, especially in divisions where I think the current director is making bad decisions.

- Having said all that, there are ways to make an impact besides playing ARRL politics:
- Get on the air. It's easier to lose bands if we're not using them. Encourage others to be active.
- Be an Elmer to those that need it.
- Teach classes to help those who want a license get a license and to help those who are already licensed to upgrade their licenses.
- Be an ambassador for amateur radio, especially to related groups, such as the "maker" groups that have sprung up around the country. Make sure that they know about your amateur radio club and the classes and exam sessions that you offer.

I'd love to hear any other thoughts that you all may have on this. I really do think that at this point, we need to inundate the ARRL Board and staff with input from the membership. While they may have a long history of ignoring the membership and just going about their own merry way, now is really a time of change, and this might be the right time to set the ARRL on a better path.

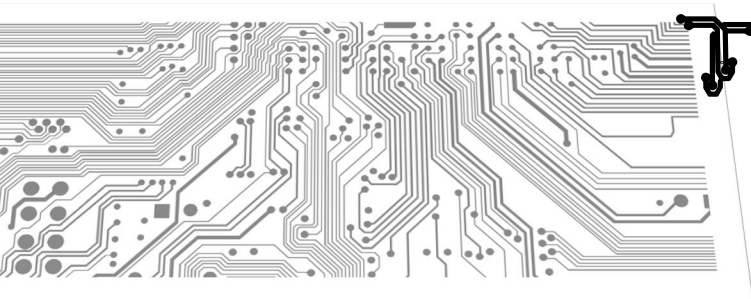
~ Dan KB6NU

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The Radio Amateurs of Canada (RAC) magazine 'The Canadian Amateur' (TCA) April-May issue is now available to members. For membership information, please visit: wp.rac.ca

April 2018



TECH TOPICS

Daniel Romila VE7LCC

A Dual Band YAGI Antenna With Open Sleeve Element

Make an inexpensive dual band antenna with gain for terrestrial or satellite contacts

I was encouraged by articles published in The Communicator to try to make a dual band YAGI antenna in the same plane. Also, John (the Editor) encouraged me in an exchange of emails.

The most difficult constructive part was the separation between the 70 cm and the 2 meters dipoles. Searching on the Internet I found out about the open sleeve concept. A dual band (70 cm and 2 m) dipole can be constructed by simply making and feeding the dipole for the 2 meter band and putting a continuous dipole, with no feed, no middle break, at a very short distance from the 2 meter dipole. Something like several cm distance between the elements proved to work. The continuous smaller element which has no feed is called "Open Sleeve". I followed the antenna design with 9 elements made by WB5CXC (silent key 2017):

http://www.wb5cxc.com/dualv_ant.html

WB5CXC himself based his work on the examples, calculations and simulations of Martin Steyer DK7ZB from Germany. His website is at:

<http://www.qsl.net/dk7zb/start1.htm>



My antenna looks like this

I was lucky to find cheap components for my antenna.

The dipoles, reflectors and directors are made from metallic clothes hangers. The dipole was encapsulated in a mint box bought from

Walmart. The antenna now is unbalanced, fed with coax cable, but everyone who would like to try it can improve upon it and make classic balanced/unbalanced adaptations, which are not the purpose of this article.

The support of the whole antenna is an aluminum rod coated with plastic, bought from Dollarama for \$1.50 CAD plus taxes. It has plastic caps on both ends, and can be found in the gardening section.

Making holes with an electric drill into the aluminum tube is not easy, especially for having all the elements

aligned in the same plan. I used plastic glue bought also from Dollarama for fixing in place the elements and sealing the holes. For less than \$5 CAD I bought a soldering gun and a bunch of plastic glue sticks.



From experience with my electric soldering gun, the temperature that it can produce is not enough. I used one of my PCB soldering guns for the plastic and now everything looks like glass, in a thin layer and very solid. The plastic becomes more fluid at higher temperature and it becomes solid when it cools down.

The first practical results were discouraging. I did not hear more repeaters, and while working through some repeaters I was not told my signal would have increased (actually, I was already quieting those repeaters with a whip!).

A Field Strength Meter

So I made the comparison between having only the dipoles and having the whole Yagi antenna with a field strength meter. The schematic, shown below, is simple.

The input was a simple short wire. It would have been great to have Germanium diodes like AA117 or OA90, but I did not. The voltmeter is actually a digital one, with 3 digits and 3 wires. It is better not to put a capacitor in parallel with the digital voltmeter because it interferes with the sampling of the peak input rectified voltage.

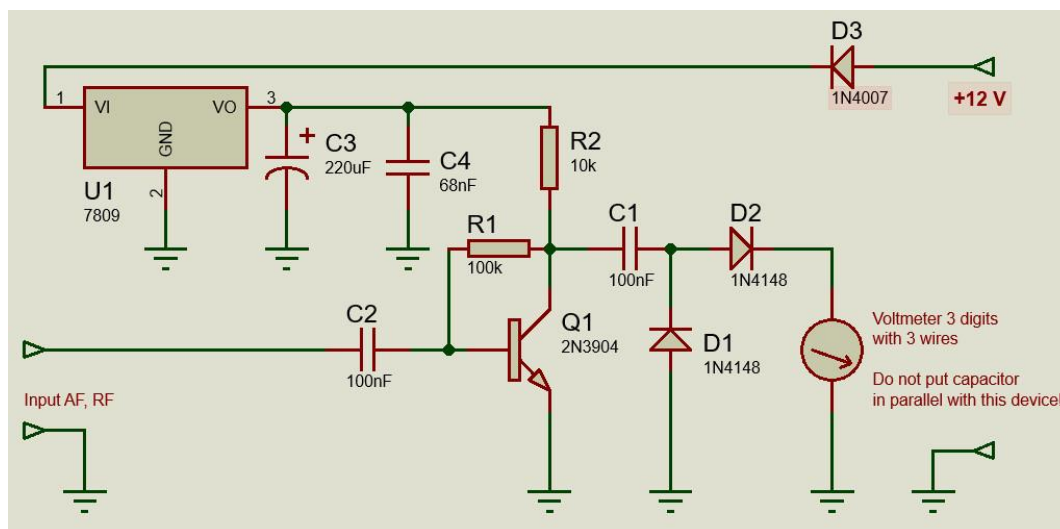
My experimentation confirmed this. I used a cheap ready-made Chinese module that can be bought new for \$1.15 CAD (shipping and taxes included).

Pointing towards the RF meter with the Yagi, I obtained around 2, and sometimes stronger indication than when I pointed with the dipoles alone, in both the 70 centimeter and 2 meter bands. While the scale is not linear, a ratio of between 2 and 3 times means something around 6-8 dB, which is similar enough (considering all are approximations) to the expected gain from a YAGI with 4 elements (2 meter band) and 5 elements (70 cm band), respectively. The element length and spacing are provided in the following table:



Element	Length (mm)	Distance from the 2m reflector
Reflector 2 m	1022	0
Reflector 70 cm	329	110
Dipole 2 m	977	260
Open sleeve (dipole 70 cm)	322	300
Director 1 for 70 cm	320	440
Director 1 for 2 m	935	470
Director 2 for 70 cm	285	750
Director 3 for 70 cm	297	965
Director 2 for 2 m	915	985

The field strength meter schematic



April 2018



Daniel Romila VE7LCG

Crystal Calibrated RF AM Generator

The project schematic generates a signal that can be used for testing shortwave receivers, including 455 KHz and 10.7 MHz intermediate frequency chains. The signal can be modulated in amplitude with 400 Hz or can be selected not to be modulated. It was tested with ceramic filters and quartz crystals between 455 KHz and 28.6 MHz (this is the highest frequency quartz I have). Every time a RF is generated a LED is switched ON. Since the indicator LED is at the maximum in all frequency intervals 0.455 MHz to 28.6 MHz I suspect it can go well beyond those boundaries.

I designed the included schematic (*next page*), adapting various blocks that can be found in many books. I tested it first on the computer. Afterwards I made it completely in the air, and only after that, when having all values of the components tested, I put it on a PCB and in a case.

Q1 is a transistor used in a Colpitts oscillator. The capacitor C10 must be 470 pF, C11 100 pF and R9 47 K. This oscillator is found all over the Internet with higher capacitors and declares that it would work up to 30 MHz. It does not. With C10 put as 1000 pF it oscillates with a quartz of 16 MHz, but it no longer oscillates with a 20 MHz crystal. So, the values from my design are the better choice. I used an integrated regulator which has capacitor filters before and after. In this way the oscillator is more stable and also less sensitive to pick up

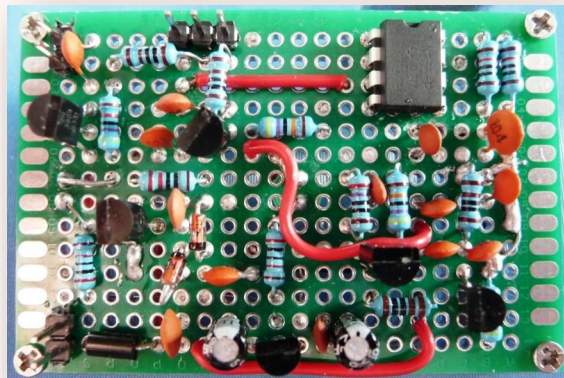
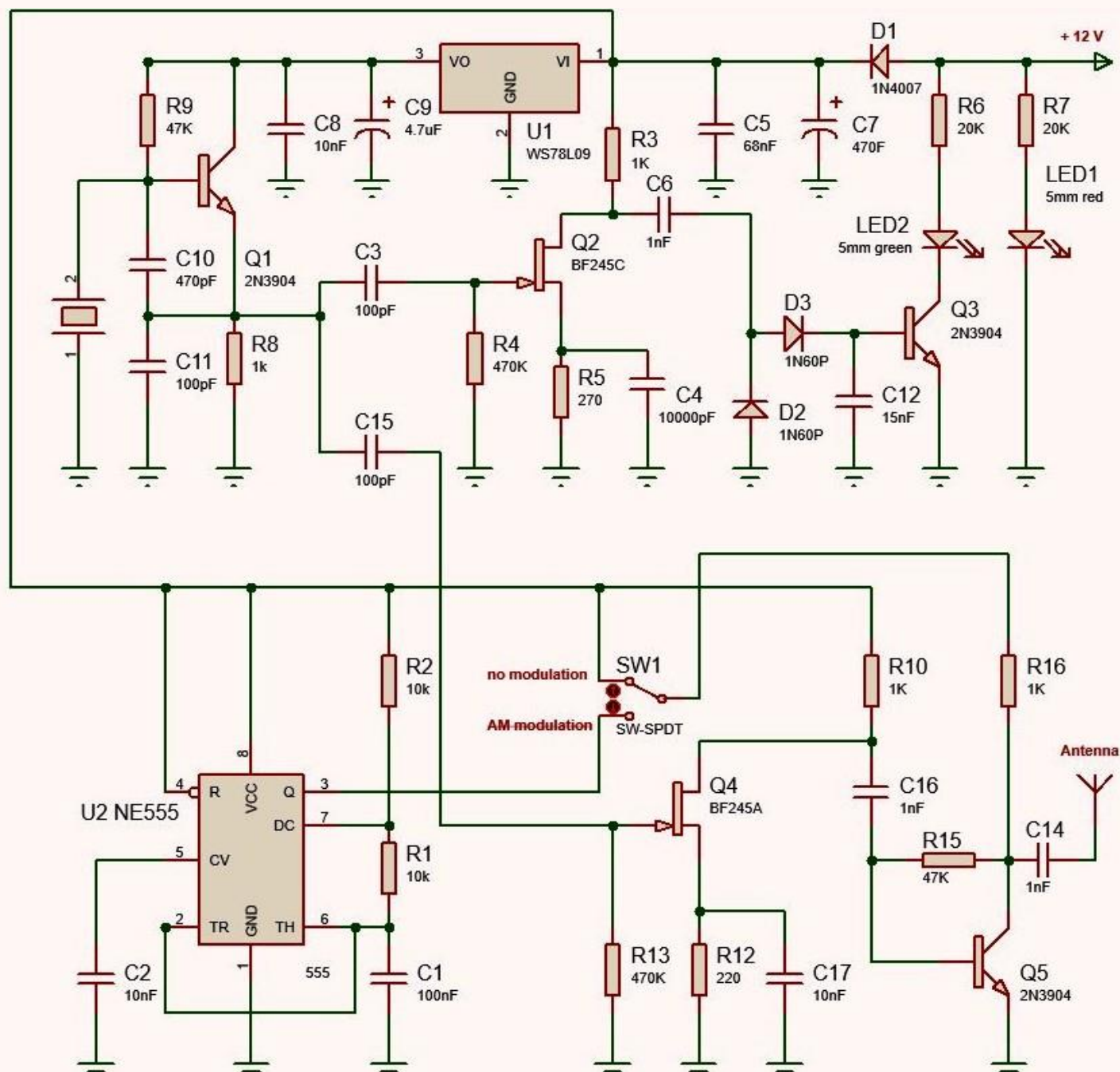
an audio signal from the audio oscillator via the power line.

A FET amplifier separates the rectifier part from the oscillator. Q3 drives a 5 mm LED. The LEDs I have give a strong light even at 0.5 mA and I put in limitation resistors of 20 K. Q3 is saturated in all the frequency intervals. I tested ceramic filters CRB455E, 500 KHz ones and 1 MHz ones. I tried various crystals up to 28.6 MHz and the LED indication was always solid.

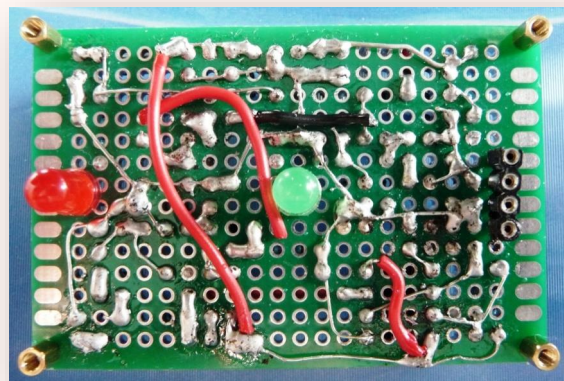
The lower part of the schematics contains a 400 Hz audio oscillator made with the integrated circuit NE555. This IC is capable of directly powering the Q5 final transistor which was meant to produce around 1 mW RF power. I use a switch to commute the + line of the final transistor to connect either directly to the power supply, via a protection diode 1N4007, or to the modulator made with NE555. A FET BF245A was used to drive the final block. The FET main purpose is to provide separation from the quartz oscillator and it also offers low amplification.

After several computer iterations, testing and change of components values I built the whole schematic in the air.





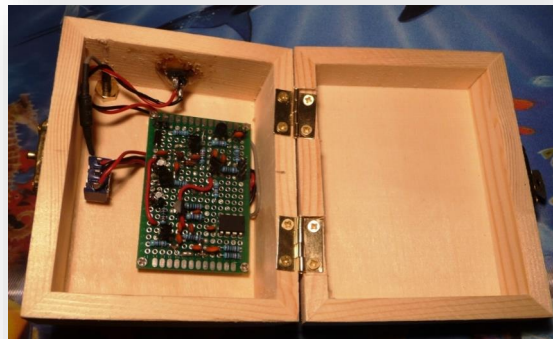
I was happy with the result, so I soldered everything on a double-sided prototyping 4 X 6 centimeter PCB



April 2018



At Dollar Tree I found a case that looked perfect for my RF generator and it cost only \$1.25 CAD plus taxes.



I put my board and connectors inside



The final product.

The modulated signal of this generator could be heard S9 from 10 meters by a Sony radio ICF7600G, when using a 3.686 MHz quartz crystal.

I used a 16 MHz quartz crystal and I could hear the modulated signal from a Kenwood 7950 receiver on 144 MHz (9th harmonic) from one meter distance. The receiver had a small antenna connected in the back. Due to the capacities from the circuit around the quartz the generated frequency can be a little under the value written on the crystal; this is not important for testing purposes, but expect the difference to be multiplied when using harmonics. For example, if the generated frequency is 15.999 instead of 16.000 MHz when using the 9th harmonic expect the signal to be audible at 143.991 MHz instead of 144 MHz. As with all quartz oscillators, such differences can be compensated with a trimmer capacitor, put in series with the quartz instead of inserting the quartz directly into the socket.

As a word of caution, I would like to mention that the only problem I had was the pinouts of the FET transistors. I bought 100 pieces of BF245A, from the same supplier, the same manufacturer, at the same moment in time, and I received transistors with different pinouts for BF245A. It was safer to use an instrument to verify the pinouts of my BF245A transistors.



~ Daniel Romila VE7LCG

Wire Snippets

Regina's radio hams look to the future

The *Leader Post* talks to radio amateurs **Stan Ewert VE5SC** and **Daniel Dion VE5DLD** about the hobby. When asked why his students are getting into ham radio, science teacher Daniel Dion VE5DLD says the answer is simple: [they like to play](#).

Women In History Month

<https://m.youtube.com/watch?v=HwxDUULf91E>

There is currently a chance to work some really rare grids. [HF Voyager](#) is an ocean-going drone currently making its way from Hawaii to California that can carry out amateur radio contacts in several digital modes. Onboard in a waterproof container is an Elecraft KX3 and a Raspberry Pi computer enabling a variety of digital modes to be used.

This morning I heard a fun QSO on AO-92. It was AEOBB's first satellite contact with K9EI. A couple of things I want to point out:

1. Even though there were multiple users on the bird, everyone patiently stood by to allow the contact to go through. Normally timing is very fast on FM birds. This was a nice break!
2. Michael K9EI was patient and courteous with the new operator. It was a great model of how to welcome and encourage others.

Here's a short recording of the QSO: <https://clyp.it/z0xoibpj>

In the February 2018's QST was a very interesting and scholarly article, the cover story actually, on [the effects of live trees on the performance](#) of both vertical and horizontal antennas.

[Inexpensive 2 Meter Vertical Dipole Build from WI9LL](#)

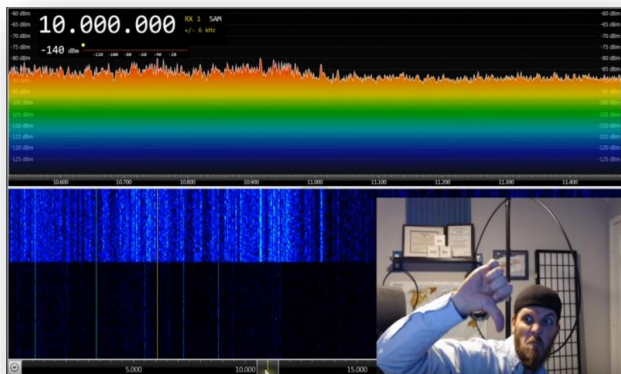
April 2018



Tidbits From The Amateur Radio World

Finding Noise With An Antenna

[K5ACL], aka [SignalSearch], recently brought his active receive loop antenna in off the roof to give it a checkup and perform any necessary maintenance. While it was in the shack, he took the opportunity to discuss how well it would perform indoors. The verdict? Not ideal. He'd mount it 50 feet away from the house if the HOA would let him.



Houses, and subsequently most ham shacks, are filled with noise sources that interfere badly with HF. So after spending a minute or so listening on an SDR, [K5ACL] demonstrates another use for this type of tightly-tuned antenna—as a noise detector.

The main culprit in [K5ACL]'s house is the ceiling light that's right there in the shack. You can see the noise striping the waterfall as he turns it on and off. But the noise from the light is small potatoes compared to some other common household items, like those power line adapters that turn house wiring into networking cable. Those produce so much noise that even an active loop is really no match. Stay tuned after the break to watch [K5ACL] work the bands through the noise.

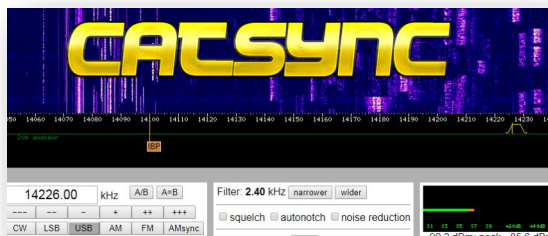
Loop antennas are great if you're stuck in an apartment building or a congested city. They're easy enough to make, whether you want a portable loop or a permanent installation.

Watch the video at <https://www.youtube.com/watch?v=B7i88EqmWyM>

The CAT Tool for WebSDRs

CATSync allows you to control public WebSDR receivers with your real rig connected via CAT control to your computer. It supports the classical WebSDR as well as Kiwi SDR interfaces:

- Control any public WebSDR server by means of your real RIG...



- Supports a wide number of RIG's (it uses the popular OmniRig engine)
- Supports WebSDR and KiwiSDR browser based SDR receivers
- Tune the VFO of your radio and see the web SDR follow in realtime !

- Listen to the same frequency as your rig via web SDR
- Ideally suited e.g. for people suffering from local QRM
- Can track RX or TX VFO (e.g. to find that split of a DX station) if radio CAT supports both simultaneously
- Can be interfaced with popular logging software using OminRig or via VSPE port splitter

This software can help you to bring you back into ham radio when you are suffering from local temporary or permanent high noise levels in an urban QTH location.

<https://catsyncsdr.wordpress.com/>

Merging the band plans worldwide

The International Amateur Radio Union (IARU) has three regions, which are steadily aiming at a unification of band planning.

The WIA Technical Advisory Committee Chairman, John Martin VK3KM, reports that this is progressing well, with the band plans set by the WIA generally fitting in to the global scheme.

However, the exception is 160 metres with different bands allocated in each IARU region.

A further complication is Australia's digital mode segment of 1800 - 1810 kHz, which was

adopted before the IARU Region 3 band plan for that spectrum.

Ultimately, 160 metre mostly crystallised AM activity, will have to move higher in that band, to align with the global band planning for digital modes.

The TAC Notes in December's Amateur Radio magazine discuss the issue in detail, which will be revisited late next year at the IARU Region 3 Conference in South Korea.

Jim Linton VK3PC

Morse code shoes send toe tapping texts at MWC 2018

A pair of smart shoes has been created to let industrial workers keep in touch via toe-typed coded messages.

The footwear was inspired by Morse code, but made possible by the latest communication technologies.

BBC technology correspondent Rory Cellan-Jones meets the firm responsible at the Mobile World Congress in Barcelona.

<http://www.bbc.com/news/av/technology-43205947/morse-code-shoes-send-toe-tapping-texts-at-mwc-2018>



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Scott Hawrelak VE7HA

My Amateur Radio Journey

The earliest recollection I have of Ham Radio was when I was very young, perhaps 10. We were living in Northern Canada and my Dad was very involved in the hobby. I remember him building his own radio (Heathkit) and him talking to other hams. I did not know what QSL cards were for but I knew they had lots of stamps on them from foreign countries that greatly helped my growing stamp collection!

Years later I got involved in Amateur Radio myself. I took the Basic course from an instructor with Burnaby Radio Club and got 86% on the exam which I was very happy with, especially since I had been out of school for many years.

I bought a 2m radio and helped out Ken Clarke with Santa Claus parades, Hyack parades and the Rotary bikeathon to Harrison for a number of years.

Eventually, I decided to get more involved and purchased a second hand base station, a TS 930. I also put up a vertical antenna, a Gap Titan. Unfortunately, I didn't get much use out of the setup, time seemed to be very scarce.

I joined the Surrey Amateur Radio Club and became the Treasurer shortly after joining, a position I have held for a number of years. I enjoy looking after SARC's pennies and keep a tight grip on them!



Last year, I went to Oregon for the Total Solar Eclipse in Salem, Oregon. On that very same day, August 21, I stopped at HRO in Portland and bought a new Icom 7300. Buying it there with coupons, duty free exemptions and a cheapish US dollar let me save \$500 over getting it here in Canada. I am now trying to get my station set up, using the Club's antenna analyser to check the SWR on the antenna and hope to get much more active on HF. Hopefully, with me retiring next summer and maybe bands eventually picking up, I will get back on the air. But be forewarned, I am not a technical wizard so you may be asked for help.

-Scott VE7HA



It's April

The next Surrey Amateur Radio Club general meeting is on Wednesday, April 14 at 7PM. We expect a good turnout as Les Tolko and Keith Witney will talk about 80m receivers and fox hunting in general. If you have not tried this 'radio sport', come out and learn what it is all about. There is a practical purpose too. Hunts like this can find sources of interference, pirate transmitters and much more. It should be an interesting evening.

SARC hosts an Amateur Radio net each Tuesday evening at 8 PM. Please tune in to the VE7RSC repeater at 147.360 MHz (+600 KHz) Tone=110.9, also accessible on IRLP node 1736 and Echolink node 496228.

On UHF we operate a repeater on 443.775MHz (+5Mhz) Tone=110.9 or IRLP Node 1737.

	SARC Net 20:00 Hrs
1st Tuesday Standby	Drew VA7DRW Dixie VA7DIX
2nd Tuesday Standby	Jinty VA7JMR Sheldon VA7XNL
3rd Tuesday Standby	Rob VE7CZV Vacant
4th Tuesday Standby	Kapila VE7KGK John VA7XB
5th Tuesday Standby	Robert VA7FMR Vacant
Want a turn at Net Control? Contact the SARC Net Manager	

Down The Log...

SARC Monthly Meetings

2nd Wed. (Sept-Jun)
1900 hr at the PREOC
Emergency Mgmt BC
14292 Green Timbers
Way, Surrey, BC

Weekly Club Breakfast

Saturday between 0800
and 1000 hrs at the
Kalmar Family Restaurant
8076 King George Blvd.
Surrey

SARC Net

Tuesday at 2000 hr local
on 147.360 MHz (+)
Tone=110.9

SEPARS Net

Tuesday at 1930 hr local
on 147.360 MHz (+)
Tone=110.9

VE7RSC Repeaters

2m: 147.360MHz+
Tone= 110.9Hz
IRLP node 1736
Echolink node 496228

1.2m: 223.960 Mhz -1.6
Tone=110.9

70cm: 443.775MHz+
Tone= 110.9Hz
IRLP node 1737



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